**Reading:** Boas: Chapter 10 Sections 8 and 10, similar to the recent material in class.

(1) More index work: The vector

$$A^i \xrightarrow[\mathcal{O}]{} (5, -1), \text{ and the tensor } C_{ij} \xrightarrow[\mathcal{O}]{} \begin{pmatrix} 2 & 3 \\ -1 & 5 \end{pmatrix}$$

    (a) Find $A^i C_{ij}$.
    (b) Find $A^j C_{ij}$.

(2) What is the metric for parabolic cylinder coordinates? These coordinates are found on the bottom of page 524 in Boas.